

## Storm Water Management Plan For Priority Projects (Major SWMP)

Project Name:	Tentative Map
Permit Number (Land Development Projects:)	
Work Authorization Number (CIP):	
Applicant:	Scott French
Applicant's Address:	9494 La Cresta Dr. La Mesa, CA 91941
Plan Prepare by ( <i>Leave blank if sane as Applicant</i> )	Alta Consultants
Date:	June 5, 2007
Revision Date (If applicable)	

The County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (Ordinance No. 9424) requires all applications for a permit or approval associated with a Land Development Activity must be accompanied by Storm Water Management Plan (SWMP) (section 67.804.f). The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority project are required to prepare a Major SWMP.

Since the SWMP is a living document, revision may be necessary during various stages of approval by the County. Please provide the approval information requested below:

Project Review Stage	Does the SWMP Need Revision?		If Yes. Provide Revision Date
	Yes	No	
		X	

Instruction for a Major SWMP can be download at <http://www.co.san-Diego.ca.us/dpw/stormwater/susmp.html>.

Completion of the following checklist and attachments will fulfill the requirements of a Major SWMP of the project.

### PROJECT DESCRIPTION

Please provide a brief description of the project in the following box. For example:

The 50-acre RC Ranch project is located on the south side of San Miguel Road in the County of San Diego (See Attachment 1) The project is approximately 1/0 miles east of the intersection of San Miguel Avenue and San Miguel Road and 1 mile south of the Sweetwater Reservoir. This project will consist of a planned residential community comprising of 45 single-family homes 72 and multi-unit dwellings

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The project site consists of three parcels totaling approximately 2.5 acres. Two single family residential houses are to be constructed on a 0.85 acre graded area which represents 34% of the property site. The project is located at the northwest corner of the intersection of Grandview Drive, Mac Ronald Drive and Lavell Street within the Mount Helix Neighborhood, County of San Diego. It is ¾ miles east from Highway 125.

### PRIORITY PROJECT DETERMINATION

Please check the box that best describes the project. Does the project meet one of the following criteria?

PRIORITY PROJECT	YES	NO
Redevelopment within the County Urban Area that creates or adds at least 5,000 net square feet of additional impervious surface area		X
Residential development of more than 10 units		X
Commercial developments with a land area for development of greater than 100,000 square feet		X
Automotive repair shops		X
Restaurants, where the land area for development is greater than 5,000 square feet		X
Hillside development, in an area with known erosive soil conditions, where there will be grading on any natural slope that is twenty-five percent or greater, if the development creates 5,000 square feet or more of impervious surface	X	
Environmentally Sensitive Areas: All development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (where discharges from the development or redevelopment will enter receiving waters within the environmentally sensitive area), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition.		X
Parking Lots 5,000 square feet or more or with 15 parking spaces or more and potentially exposed to urban runoff		X
Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater		X

**Limited Exclusion:** Trenching and resurfacing work associated with utility projects are not considered priority projects. Parking lots, buildings and other structures associated with utility projects are subject to SUSMP requirements if one or more of the criteria above are met.

If you answered **NO** to all the questions, then **STOP**. Please complete a Minor SWMP for your project.



If you answered **YES** to any of the questions, please continue.

The following questions provide a guide to collecting information relevant to project stormwater quality issues. Please provide a description of the findings in text box below.

	QUESTIONS	COMPLETED	NA
1.	Describe the topography of the project area.	Hilly	
2.	Describe the local land use within the project area and adjacent areas.	Residential	
3.	Evaluate the presence of dry weather flow.		N/A
4.	Determine the receiving waters that may be affected by the project throughout the project life cycle (i.e., construction, maintenance and operation).	Sweetwater River	
5.	For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern.		X
6.	Determine if there are any High Risk Areas (municipal or domestic water supply reservoirs or groundwater percolation facilities) within the project limits.		X
7.	Determine the Regional Board special requirements, including TMDLs, effluent limits, etc.		X
8.	Determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves.	2.7	
9.	If considering Treatment BMPs, determine the soil classification, permeability, erodibility, and depth to groundwater.		X
10.	Determine contaminated or hazardous soils within the project area.		X

Please provide a description of the findings in the following box. For example:

The project is located in the San Diego Hydrologic unit. The area is characterized by rolling grassy hills and shrubs. Runoff from the project drains into a MS4 that eventually drains to Los Coches Creek. Within the project limit there are no 303(d) impaired receiving water and no Regional Board special requirements.

The project is located within the San Diego Hydrologic Watershed Basin of Hillsdale, Unit HSA 9.22. The area is characterized as grassy hills and shrubs. Storm water runoff from the project sheet flows into inlets and conveyances and discharge into Lavell Street and eventually into Grandview Drive drainage system. Within the project limit there are no 303(d) impaired receiving water and no Regional Board special requirements.

Complete the checklist below to determine if Treatment Best Management Practices (BMPs) are required for the project.

No.	CRITERIA	YES	NO	INFORMATION
1.	Is this an emergency project		X	If YES, go to 6. If NO, continue to 2.
2.	Have TMDLs been established			If YES, go to 5.



No.	CRITERIA	YES	NO	INFORMATION
	for surface waters within the project limit?		X	If NO, continue to 3.
3.	Will the project directly discharge to a 303(d) impaired receiving water body?		X	If YES, go to 5. If NO, continue to 4.
4.	Is this project within the urban and environmentally sensitive areas as defined on the maps in Appendix B of the <i>County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects</i> ?			If YES, continue to 5. If NO, go to 6.
5.	Consider approved Treatment BMPs for the project.	X		If YES, go to 7.
6.	Project is not required to consider Treatment BMPs			Document for Project Files by referencing this checklist.
7.	End			

Now that the need for a treatment BMPs has been determined, other information is needed to complete the SWMP.

### WATERSHED

Please check the watershed(s) for the project.

- |  |  |                                       |   |
|--|--|---------------------------------------|---|
| <input type="checkbox"/> San Juan              | <input type="checkbox"/> Santa Margarita | <input type="checkbox"/> San Luis Rey | <input type="checkbox"/> Carlsbad         |
| <input type="checkbox"/> San Dieguito          | <input type="checkbox"/> Penasquitos     | <input type="checkbox"/> San Diego    | <input type="checkbox"/> Pueblo San Diego |
| <input checked="" type="checkbox"/> Sweetwater | <input type="checkbox"/> Otay            | <input type="checkbox"/> Tijuana      |   |

Please provide the hydrologic sub-area and number(s)

Number	Name
909.12	La Nación

Please provide the beneficial uses for Inland Surface Waters and Ground Waters. Beneficial Uses can be obtained from the Water Quality Control Plan For The San Diego Basin, which is available at the Regional Board office or at <http://www.swrcb.ca.gov/rwqcb9/programs/basinplan.html>.



SURFACE WATERS	Hydrologic Unit Basin Number	MUN	AGR	IND	PROC	GWR	FRESH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN
Inland Surface Waters	9.22	X	X	X	X				X	X		X		X		
Ground Waters	None															

X Existing Beneficial Use

0 Potential Beneficial Use

\* Excepted from Municipal

## POLLUTANTS OF CONCERN

Using Table 1, identify pollutants that are anticipated to be generated from the proposed priority project categories. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

**Table 1. Anticipated and Potential Pollutants Generated by Land Use Type**

Priority Project Categories	General Pollutant Categories								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	p <sup>(1)</sup>	p <sup>(2)</sup>	P	X
Commercial Development >100,000 ft <sup>2</sup>	p <sup>(1)</sup>	p <sup>(1)</sup>		p <sup>(2)</sup>	X	p <sup>(5)</sup>	X	p <sup>(3)</sup>	p <sup>(5)</sup>
Automotive Repair Shops			X	X <sup>(4)(5)</sup>	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft <sup>2</sup>	X	X			X	X	X		X



	<i>General Pollutant Categories</i>								
<i>Priority Project Categories</i>	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Parking Lots	P <sup>(1)</sup>	P <sup>(1)</sup>	X		X	P <sup>(1)</sup>	X		P <sup>(1)</sup>
Streets, Highways & Freeways	X	P <sup>(1)</sup>	X	X <sup>(4)</sup>	X	P <sup>(5)</sup>	X		
X = anticipated P = potential (1) A potential pollutant if landscaping exists on-site. (2) A potential pollutant if the project includes uncovered parking areas. (3) A potential pollutant if land use involves food or animal waste products. (4) Including petroleum hydrocarbons. (5) Including solvents.									

**Note:** If other monitoring data that is relevant to the project is available. Please include as Attachment C.

### CONSTRUCTION BMPs

Please check the construction BMPs that may be used. The BMPs selected are those that will be implemented during construction of the project. The applicant is responsible for the placement and maintenance of the BMPs selected.

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Silt Fence   | <input type="checkbox"/> Desilting Basin                           |
| <input checked="" type="checkbox"/> Fiber Rolls  | <input checked="" type="checkbox"/> Gravel Bag Berm                |
| <input checked="" type="checkbox"/> Street Sweeping and Vacuuming  | <input type="checkbox"/> Sandbag Barrier                           |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection   | <input type="checkbox"/> Material Delivery and Storage             |
| <input checked="" type="checkbox"/> Stockpile Management   | <input type="checkbox"/> Spill Prevention and Control              |
| <input checked="" type="checkbox"/> Solid Waste Management   | <input checked="" type="checkbox"/> Concrete Waste Management      |
| <input checked="" type="checkbox"/> Stabilized Construction Entrance/Exit  | <input type="checkbox"/> Water Conservation Practices              |
| <input type="checkbox"/> Dewatering Operations   | <input checked="" type="checkbox"/> Paving and Grinding Operations |
| <input type="checkbox"/> Vehicle and Equipment Maintenance   |  |
| <input checked="" type="checkbox"/> Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval. |  |

### SITE DESIGN

To minimize stormwater impacts, site design measures must be addressed. The following checklist provides options for avoiding or reducing potential impacts during project planning. If



YES is checked, it is assumed that the measure was used for this project. If NO is checked, please provide a brief explanation why the option was not selected in the text box below.

	OPTIONS	YES	NO	N/A
1.	Can the project be relocated or realigned to avoid/reduce impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions?		X	
2.	Can the project be designed to minimize impervious footprint?			X
3.	Conserve natural areas where feasible?	X		
4.	Where landscape is proposed, can rooftops, impervious sidewalks, walkways, trails and patios be drained into adjacent landscaping?	X		
5.	For roadway projects, can structures and bridges be designed or located to reduce work in live streams and minimize construction impacts?			X
6.	Can any of the following methods be utilized to minimize erosion from slopes:			
	6.a. Disturbing existing slopes only when necessary?	X		
	6.b. Minimize cut and fill areas to reduce slope lengths?	X		
	6.c. Incorporating retaining walls to reduce steepness of slopes or to shorten slopes?	X		
	6.d. Providing benches or terraces on high cut and fill slopes to reduce concentration of flows?	X		
	6.e. Rounding and shaping slopes to reduce concentrated flow?	X		
	6.f. Collecting concentrated flows in stabilized drains and channels?	X		

Please provide a brief explanation for each option that was checked N/A or NO in the following box.

1. There are no floodplains, and wetlands within the vicinity of project or any unstable soil conditions within the limits of the project. The design of the project has minimized the construction on steep slopes.
2. The project is designed with minimal imperviousness.
5. There is no stream to cross.

If the project includes work in channels, then complete the following checklist. Information shall be obtained from the project drainage report.

No.	CRITERIA	YES	NO	N/A	COMMENTS
1.	Will the project increase velocity or volume of downstream flow?			X	If YES go to 5.
2.	Will the project discharge to unlined channels?			X	If YES go to 5.
3.	Will the project increase potential sediment load			X	If YES go to 5.



No.	CRITERIA	YES	NO	N/A	COMMENTS
	of downstream flow?			X	
4.	Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect upstream and/or downstream channel stability?			X	If YES go to 7.
5.	Review channel lining materials and design for stream bank erosion.			X	Continue to 6.
6.	Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.			X	Continue to 7.
7.	Include, where appropriate, energy dissipation devices at culverts.			X	Continue to 8.
8.	Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.			X	Continue to 9.
9.	Include, if appropriate, detention facilities to reduce peak discharges.			X	
10.	"Hardening" natural downstream areas to prevent erosion is not an acceptable technique for protecting channel slopes, unless pre-development conditions are determined to be so erosive that hardening would be required even in the absence of the proposed development.			X	Continue to 11.
11.	Provide other design principles that are comparable and equally effective.			X	Continue to 12.
12.	End				

## SOURCE CONTROL

Please complete the following checklist for Source Control BMPs. If the BMP is not applicable for this project, then check N/A only at the main category.

BMP			YES	NO	N/A
1.	<b>Provide Storm Drain System Stenciling and Signage</b>				
	1.a.	All storm drain inlets and catch basins within the project area shall have a stencil or tile placed with prohibitive language (such as: "NO DUMPING – DRAINS TO _____") and/or graphical icons to discourage illegal dumping.	X		
	1.b.	Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.	X		
2.	<b>Design Outdoors Material Storage Areas to Reduce Pollution Introduction</b>				
	2.a.	This is a detached single-family residential project. Therefore, personal storage areas are exempt from this requirement.			X



BMP			YES	NO	N/A
	2.b.	Hazardous materials with the potential to contaminate urban runoff shall either be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.	X		
	2.c.	The storage area shall be paved and sufficiently impervious to contain leaks and spills.			X
	2.d.	The storage area shall have a roof or awning to minimize direct precipitation within the secondary containment area.			X
3.	<b>Design Trash Storage Areas to Reduce Pollution Introduction</b>				
	3.a.	Paved with an impervious surface, designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash; or,			X
	3.b.	Provide attached lids on all trash containers that exclude rain, or roof or awning to minimize direct precipitation.			X
4.	<b>Use Efficient Irrigation Systems &amp; Landscape Design</b>				
	The following methods to reduce excessive irrigation runoff shall be considered, and incorporated and implemented where determined applicable and feasible.				
	4.a.	Employing rain shutoff devices to prevent irrigation after precipitation.	X		
	4.b.	Designing irrigation systems to each landscape area's specific water requirements.	X		
	4.c.	Using flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.	X		
	4.d.	Employing other comparable, equally effective, methods to reduce irrigation water runoff.	X		
5.	<b>Private Roads</b>				
	The design of private roadway drainage shall use at least one of the following				
	5.a.	Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings.			X
	5.b.	Urban curb/swale system: street slopes to curb, periodic swale inlets drain to vegetated swale/biofilter.	X		
	5.c.	Dual drainage system: First flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to storm water conveyance system.	X		
	5.d.	Other methods that are comparable and equally effective within the project.	X		
6.	<b>Residential Driveways &amp; Guest Parking</b>				
	The design of driveways and private residential parking areas shall use one at least of the following features.				
	6.a.	Design driveways with shared access, flared (single lane at street) or wheelstrips (paving only under tires); or, drain into landscaping prior to discharging to the storm water conveyance system.		X	
	6.b.	Uncovered temporary or guest parking on private residential lots may be: paved with a permeable surface; or, designed to drain into landscaping prior to discharging to the storm water conveyance system.	X		
	6.c.	Other features which are comparable and equally effective.			
7.	<b>Dock Areas</b>				



BMP		YES	NO	N/A
	Loading/unloading dock areas shall include the following.			
7.a.	Cover loading dock areas, or design drainage to preclude urban run-on and runoff.		X	
7.b.	Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.		X	
7.c.	Other features which are comparable and equally effective.		X	
8.	<b>Maintenance Bays</b>			
	Maintenance bays shall include the following.			
8.a.	Repair/maintenance bays shall be indoors; or, designed to preclude urban run-on and runoff.		X	
8.b.	Design a repair/maintenance bay drainage system to capture all wash water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.		X	
8.c.	Other features which are comparable and equally effective.		X	
9.	<b>Vehicle Wash Areas</b>			
	Priority projects that include areas for washing/steam cleaning of vehicles shall use the following.			
9.a.	Self-contained; or covered with a roof or overhang.		X	
9.b.	Equipped with a clarifier or other pretreatment facility.		X	
9.c.	Properly connected to a sanitary sewer.		X	
9.d.	Other features which are comparable and equally effective.		X	
10.	<b>Outdoor Processing Areas</b>			
	Outdoor process equipment operations, such as rock grinding or crushing, painting or coating, grinding or sanding, degreasing or parts cleaning, waste piles, and wastewater and solid waste treatment and disposal, and other operations determined to be a potential threat to water quality by the County shall adhere to the following requirements.			
10.a.	Cover or enclose areas that would be the most significant source of pollutants; or, slope the area toward a dead-end sump; or, discharge to the sanitary sewer system following appropriate treatment in accordance with conditions established by the applicable sewer agency.		X	
10.b.	Grade or berm area to prevent run-on from surrounding areas.		X	
10.c.	Installation of storm drains in areas of equipment repair is prohibited.		X	
10.d.	Other features which are comparable or equally effective.		X	
11.	<b>Equipment Wash Areas</b>			
	Outdoor equipment/accessory washing and steam cleaning activities shall be.			
11.a.	Be self-contained; or covered with a roof or overhang.		X	
11.b.	Be equipped with a clarifier, grease trap or other pretreatment facility, as appropriate		X	
11.c.	Be properly connected to a sanitary sewer.		X	
11.d.	Other features which are comparable or equally effective.		X	
12.	<b>Parking Areas</b>			
	The following design concepts shall be considered, and incorporated and implemented where determined applicable and feasible by the County.			
12.a.	Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.		X	



BMP			YES	NO	N/A
	12.b.	Overflow parking (parking stalls provided in excess of the County's minimum parking requirements) may be constructed with permeable paving.		X	
	12.c.	Other design concepts that are comparable and equally effective.		X	
13.	<b>Fueling Area</b>				
	Non-retail fuel dispensing areas shall contain the following.				
	13.a.	Overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fueling area shall drain to the project's treatment control BMP(s) prior to discharging to the storm water conveyance system.		X	
	13.b.	Paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited.		X	
	13.c.	Have an appropriate slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of urban runoff.		X	
	13.d.	At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.		X	

Please list other project specific Source Control BMPs in the following box. Write N/A if there are none and briefly explain.

N/A
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## TREATMENT CONTROL

To select a structural treatment BMP using Treatment Control BMP Selection Matrix (Table 2), each priority project shall compare the list of pollutants for which the downstream receiving waters are impaired (if any), with the pollutants anticipated to be generated by the project (as identified in Table 1). Any pollutants identified by Table 1, which are also causing a Clean Water Act section 303(d) impairment of the receiving waters of the project, shall be considered primary pollutants of concern. Priority projects that are anticipated to generate a primary pollutant of concern shall select a single or combination of stormwater BMPs from Table 2, which **maximizes pollutant removal** for the particular primary pollutant(s) of concern.

Priority projects that are **not** anticipated to generate a pollutant for which the receiving water is Clean Water Act Section 303(d) impaired shall select a single or combination of stormwater BMPs from Table 2, which are effective for pollutant removal of the identified secondary pollutants of concern, consistent with the "maximum extent practicable" standard.

**Table 2. Treatment Control BMP Selection Matrix**



Pollutant of Concern	Treatment Control BMP Categories						
	Biofilters	Detention Basins	Infiltration Basins <sup>(2)</sup>	Wet Ponds or Wetlands	Drainage Inserts	Filtration	Hydrodynamic Separator Systems <sup>(3)</sup>
Sediment	M	H	H	H	L	H	M
Nutrients	L	M	M	M	L	M	L
Heavy Metals	M	M	M	H	L	H	L
Organic Compounds	U	U	U	M	L	M	L
Trash & Debris	L	H	U	H	M	H	M
Oxygen Demanding Substances	L	M	M	M	L	M	L
Bacteria	U	U	H	H	L	M	L
Oil & Grease	M	M	U	U	L	H	L
Pesticides	U	U	U	L	L	U	L

(1) Copermitees are encouraged to periodically assess the performance characteristics of many of these BMPs to update this table.

(2) Including trenches and porous pavement.

(3) Also known as hydrodynamic devices and baffle boxes.

L: Low removal efficiency:  
M: Medium removal efficiency:  
H: High removal efficiency:  
U: Unknown removal efficiency

Sources: *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* (1993), *National Stormwater Best Management Practices Database* (2001), *Guide for BMP Selection in Urban Developed Areas* (2001), and *Caltrans New Technology Report* (2001).

A Treatment BMP must address runoff from developed areas. Please provide the post-construction water quality values for the project. Label outfalls on the BMP map. Q<sub>wq</sub> is dependent on the type of treatment BMP selected for the project.

Outfall	Tributary Area (acres)	Q <sub>100</sub> (cfs)	Q <sub>wq</sub> (cfs)
4	3.1	10.07	2.40
9	0.2	0.56	0.13

Please check the box(s) that best describes the Treatment BMP(s) selected for this project.

**Biofilters**

- ☒ Grass swale  
☐ Grass strip  
☐ Wetland vegetation swale  
☐ Bioretention

**Detention Basins**

- ☒ Extended/dry detention basin with grass lining  
☐ Extended/dry detention basin with impervious lining



**Infiltration Basins**

- ☐ Infiltration basin
- ☐ Infiltration trench
- ☐ Porous asphalt
- ☐ Porous concrete
- ☐ Porous modular concrete block

**Wet Ponds or Wetlands**

- ☐ Wet pond/basin (permanent pool)
- ☐ Constructed wetland

**Drainage Inserts** (See note below)

- ☐ Oil/Water separator
- ☒ Catch basin insert
- ☐ Storm drain inserts
- ☐ Catch basin screens

**Filtration**

- ☐ Media filtration
- ☐ Sand filtration

**Hydrodynamic Separator Systems**

- ☐ Swirl Concentrator
- ☐ Cyclone Separator
- ☐ Baffle Separator
- ☐ Gross Solids Removal Device
- ☐ Linear Radial Device

**Note:** Catch basin inserts and storm drain inserts are excluded from use on County maintained right-of-way and easements.

Include Treatment Datasheet as Attachment E. The datasheet should include the following:	<b>COMPLETED</b>	<b>NO</b>
1. Description of how treatment BMP was designed. Provide a description for each type of treatment BMP.	Extended Detention Basin	
2. Engineering calculations for the BMP(s)	See Calc.	

Please describe why the selected treatment BMP(s) was selected for this project. For projects utilizing a low performing BMP, please provide a detailed explanation and justification.

The purpose of the Extend Detention Basin is to detain the excess 100 year storm runoff and release it at the natural pre-development runoff. This mitigates the increase in post development runoff and discharge velocity. Grassy swale and catch basin inserts are BMP's structures that treat runoff prior to entering drainage conveyances.

**MAINTENANCE**

Please check the box that best describes the maintenance mechanism(s) for this project.



CATEGORY	SELECTED	
	YES	NO
First		
Second	X	
Third		
Fourth		

Please briefly describe the long-term fiscal resources for the selected maintenance mechanism(s).

It is the responsibility of the owner to maintain the stormwater BMP but the County in a backup role be able to step in and perform the maintenance if the property owner fails to perform the maintenance as required in the maintenance agreement.

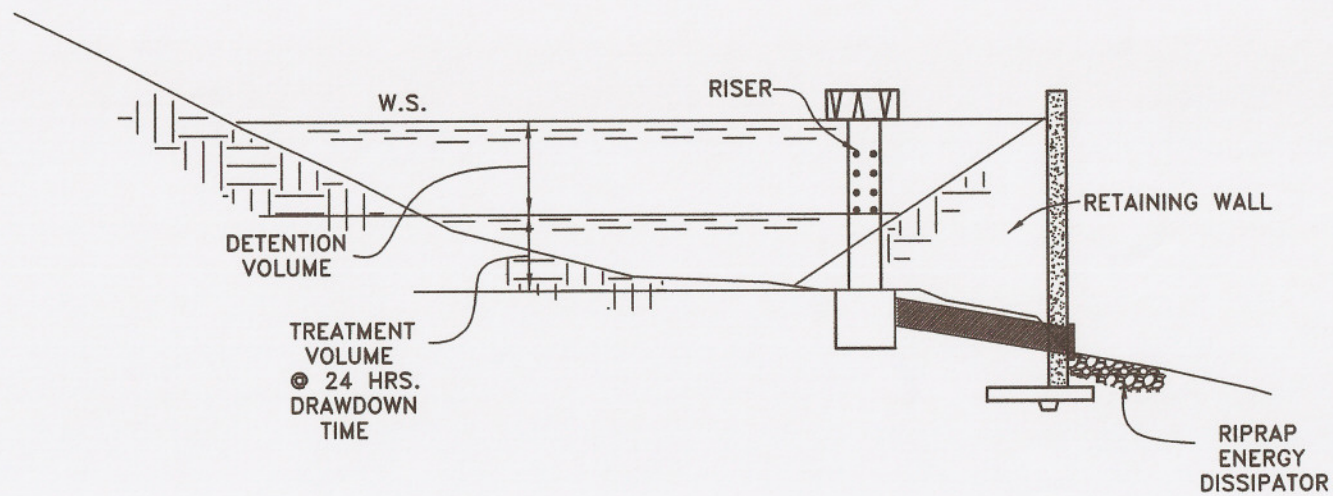
### ATTACHMENTS

Please include the following attachments.

ATTACHMENT		COMPLETED	N/A
A	Project Location Map	X	
B	Site Map	X	
C	Relevant Monitoring Data		X
D	Treatment BMP Location Map	X	
E	Treatment BMP Datasheets	X	
F	Operation and Maintenance Program for Treatment BMPs	X	
G	Engineer's Certification Sheet	X	

**Note:** Attachments A and B may be combined.





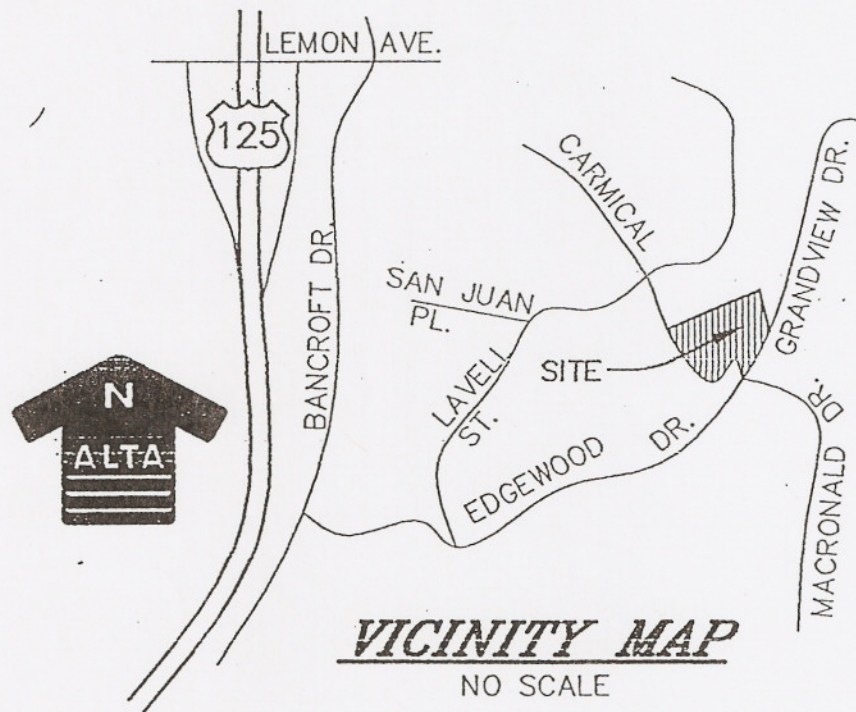
### TYPICAL EXTEND DETENTION BASIN

NO SCALE



# ATTACHMENT A

## LOCATION MAP





**ATTACHMENT B**

**PROJECT SITE MAP**



## **ATTACHMENT D**

### **TREATMENT BMP LOCATION MAP**



# **ATTACHMENT E**

## **TREATMENT BMP DATASHEET**

*(NOTE: POSSIBLE SOURCE FOR DATASHEETS CAN BE FOUND AT  
[WWW.CABMPHANDBOOKS.COM](http://WWW.CABMPHANDBOOKS.COM). INCLUDE ENGINEERING CALCULATIONS FOR SIZING THE  
TREATMENT BMP.)*



**Project Name: TENTATIVE PARCEL MAP**

Location: Lavell Street

Date: August 28, 2006

Job No. 346-01

**HYDRAULICS****EXTENDED DETENTION BASIN****BASIN "A"**

See Figure "A"

<b>INPUT VARIABLES (Industrial Development)</b>		<b>100 Year</b>	
Six (6) Hour Precipitation Amount (Inches)	P <sub>6</sub> =	2.70	Fig. 3-1
Distance	L =	1,217	
Pad Slope	S = %	3.12%	(See Pg. 1 Hydrology )
Time of Concentration (Min.)	T <sub>c</sub> =	15.22	Min. (See Pg. 1 Hydrology )
Coefficient of Runoff	C =	0.87	Table 3-1
Area	A =	14.00	CFS
Time to Peak (T <sub>p</sub> = 1.1072 x T <sub>c</sub> )	T <sub>p</sub> =	16.85	Minutes
Time of Hydrograph to Begin (T <sub>b</sub> = 20 - T <sub>p</sub> )	T <sub>b</sub> =	3.15	Minutes
Time of Hydrograph to End (T <sub>e</sub> = 20 + 1.5xT <sub>p</sub> )	T <sub>e</sub> =	45.28	Minutes
I <sub>Tc</sub> = 7.44 x P <sub>6</sub> /T <sub>c</sub> <sup>.645</sup>	I <sub>Tc</sub> =	3.47	Ins./hr.
Q <sub>p</sub> = C x I <sub>Tc</sub> x A, (C.F.S.)	Q <sub>p</sub> =	10.07	CFS (See Pg.1 Hydrology )
<b>SURROUNDING FLOW (Q<sub>s</sub>)</b>			
Depth of Precipitation for 2 Hours (D <sub>120</sub> = 0.6785 x P <sub>6</sub> )	D <sub>120</sub> =	1.83	Inches
Depth of Precipitation for Hydrograph (D <sub>H</sub> = P <sub>6</sub> x T <sub>c</sub> <sup>.355/5.83</sup> )	D <sub>H</sub> =	1.22	Inches
Surrounding Intensity: I <sub>s</sub> = 60(D <sub>120</sub> - D <sub>H</sub> ) / (120 - 2.5T <sub>c</sub> )	I <sub>s</sub> =	0.45	Ins./hr.
Q <sub>s</sub> = C x I <sub>s</sub> x A, (C.F.S.)	Q <sub>s</sub> =	5.48	CFS
<b>OUTFLOW ( Existing Condition)</b>			
Runoff Coefficient	C =	0.35	Table 3-1
Length of Travel	L =	627	Ft.
Difference in Elevation	H =	114	Ft
Effective Slope	S =	18.18%	% (See Pg 2 Pre-Hydrology )
Time of Concentration	T <sub>c</sub> =	5.83	Min. (Pre-Hydrology)
Intensity in Ins./Hr.	I =	4.66	Ins./Hr
Runoff (CFS)	Q <sub>n</sub> =	6.11	CFS (See Pg. 2 Pre-Hydrology)
<b>RESERVOIR STORAGE</b>			
D <sub>1</sub> = Q <sub>p</sub> - Q <sub>s</sub>	D <sub>1</sub> =	4.59	CFS
D <sub>2</sub> = Q <sub>n</sub> - Q <sub>s</sub>	D <sub>2</sub> =	0.63	CFS
T <sub>s1</sub> = Begin Surrounding Time	T <sub>s1</sub> =	12.32	Minutes
T <sub>s2</sub> = End Surrounding Time	T <sub>s2</sub> =	31.52	Minutes
T <sub>n</sub> = Outflow Hydrograph Time Intercept	T <sub>n</sub> =	29.94	Minutes
V <sub>r</sub> = [( D <sub>1</sub> -D <sub>2</sub> ) x (T <sub>s2</sub> -T <sub>s1</sub> )] / 2 x 60: (Cu.Ft.)	V <sub>r</sub> =	2,280	Cu.Ft.
Volume in Acre-Foot	Ac/Ft =	0.05	
<b>TREATMENT VOLUME</b>			
Disturbed Area	A =	0.70	Ac
Runoff Coefficient	C =	0.87	
85 Percentile Rainfall Intensity	P <sub>85</sub> =	0.65	Inch
Volume	V =	0.40	Ac/in
	or	1,437	Cu.Ft.



**POST-DEVELOPMENT HYDROLOGY CALCULATION**

Page 1 of 3 Pages

Project: Tentative Parcel Map

Date: Sept.12, 2006

Location: Lavell Street

**85 Percentile Rainfall Intensity Chart**

Soil Group Classification: B

Precipitation		P85 =	0.65	Inch
<b>INITIAL HYDROLOGY (KIRPICH EQUATION)</b>				
<b>Node 1 - Node 2</b>				
Area "A"	A =	2.1	Ac.	
High Elevation	Hi =	765		
Lower Elevation	Lo =	690		
Difference Elevation	H =	75	Ft.	
Distance Travel	L =	423	Ft.	
Effective Slope	So =	17.73%		
Initial Distance Travel	Lm =	100.00	Ft.	Table 3-2
Initial Time Travel	Ti =	3.33	Minutes	Extrapolated
Remaining Dist. Travel	Lr =	323.00	Ft.	
Remaining Diff. Elev.	Hr =	57.27	Ft.	
Remaining Time Travel	Tr =	1.30	Minutes	
Time of Concentration	Tc =	4.63	Minutes	Fig. 3-4
Intensity	I =	1.80	In./hr.	
Runoff Coefficient	C =	0.41	Residential	2.9 DU/A
Cx A	CA =	0.861		
Designed Runoff	Q =	1.55	CFS	

**GUTTER FLOW****Node 2 - Node 3**

Area "B"	A =	0.5	Ac.	
Distance Travel	L =	114	Ft.	
Effective Slope	S =	12.00%		
Gutter Velocity	V =	6.00		Fig. 3-6
Time Travel	Tr =	0.32	Minutes	
Time of Concentration	Tc =	4.94	Minutes	
Intensity	I =	1.73	In./hr.	
Runoff Coefficient	C =	0.87	Residential	Driveway
Summation of C x A	$\Sigma CA =$	1.296		
Designed Runoff	Q =	2.24	CFS	

**HYDROLOGY OF PIPES****Node 3 - Node 4**

Area "C"	A =	0.3	Ac.	
Designed Runoff	Q =	9.70	CFS	
Pipe Length	L =	75.00	Ft.	
Pipe Diameter	d =	1.00	Ft.	
Pipe Slope	So =	21.33%		
Manning's Coef.	.n =	0.013		
Depth of Water	y =	0.55	Ft.	
Velocity	V =	21.80	Ft./Sec.	
Velocity Head	hv =	7.38	Ft.	
Travel Time	Tt =	0.06	Minutes	
Time of Concentration	Tc =	5.00	Minutes	
Intensity	I =	1.71	In./hr.	
Runoff Coefficient	C =	0.25		Open Space



**POST-DEVELOPMENT HYDROLOGY CALCULATION**

Page 2 of 3 Pages

Project: Tentative Parcel Map

Date: Sept. 12, 2006

Location: Lavell Street

**85 Percentile Rainfall Intensity Chart**

Soil Group Classification: B

Summation of C x A	$\Sigma CA =$	1.371		
Total Design Runoff	Q =	2.35	CFS	

**OVERLAND - TIME****Node 5 to Node 6**

Area "D"	A =	0.2	Ac.	
Distance Travel	L =	103	Ft.	
Pad Slope	S =	0.50%		
Initial Distance Travel	Lm =	50.00	Ft.	Table 3-2
Initial Time Travel	Ti =	11.30	Minutes	
Remaining Dist. Travel	Lr =	53.00	Ft.	
Remaining Time Travel	Tr =	3.80	Minutes	Fig. 3-3
Time of Concentration	Tc =	15.10	Minutes	
Intensity	I =	0.84	In./hr.	
Runoff Coefficient	C =	0.87	Residential	Driveway
A x C	AC =	0.174		
Designed Runoff	Q =	0.15	CFS	

**Node 6 to Node 4**

Designed Runoff	Q =	0.15	CFS	
Pipe Length	L =	93.00	Ft.	
Pipe Diameter	d =	0.83	Ft.	
Pipe Slope	So =	36.56%		
Manning's Coef.	.n =	0.013		
Depth of Water	y =	0.06	Ft.	
Velocity	V =	8.10	Ft./Sec.	
Velocity Head	hv =	1.02	Ft.	
Travel Time	Tt =	0.19	Minutes	
Time of Concentration	Tc =	15.29	Minutes	
Intensity	I =	0.83	In./hr.	

Confluence @ Node 4	Q	Tc	I	
Q1 =	2.35	5.00	1.71	
Q2 =	0.15	15.29	0.83	
Confluence Q =	2.40	cfs		

**OVERLAND - TIME****Node 7 - Node 8**

Area "E"	A =	0.1	Ac.	
Distance Travel	L =	72	Ft.	
Pad Slope	S =	1.00%		
Time of Concentration	Tc =	10.50	Minutes	Table 3-2
Intensity	I =	1.06	In./hr.	
Runoff Coefficient	C =	0.87		Pad
A x C	AC =	0.087		
Designed Runoff	Q =	0.09	CFS	







## **ATTACHMENT F**

### **OPERATION AND MAINTENANCE PROGRAM FOR TREATMENT BMP**

*(NOTE: INFORMATION REGARDING OPERATION AND MAINTENANCE CAN BE OBTAINED*

*FROM THE FOLLOWING WEB SITE:*

*HTTP://WWW.SDCOUNTY.CA.GOV/DPW/WATERSHEDS/LAND\_DEV/SUSMP.HTML.)*



# APPENDIX H Estimated O & M Costs for BMP Project

PAGE 1 OF 3 PAGES

ESTIMATED VALUED FROM CALTRANS PILOT BMP STUDY. THE SPREADSHEET WILL CHANGE AS ADDITIONAL DATA BECOMES AVAILABLE.

STUDY. THE SPREADSHEET WILL CHANGE AS ADDITIONAL DATA BECOMES AVAILABLE.						Labor			Equipment				Materials		Total	Comment
						Per. Hrs.	Rate	Cost	Type	Days	rate	Cost	Item	cost	Cost	
EXTENDED DETENTION BASIN																
PREVENTIVE MAINTENANCE AND ROUTINE INSPECTIONS																
DESIGN CRITERIA																
ROUTINE ACTION	MAINTENANCE INDICATOR	FIELD MEASUREMENT	MAINTENANCE INDICATOR	MAINTENANCE ACTIVITY	SITE-SPECIFIC REQUIREMENT											
BASIN SIDE SLOPE PLANTED FOR EROSION PROTECTION AND PLANTED INVERT.	AVERAGE VEGETATION HEIGHT GREATER THAN 12-INCHES, EMERGENCE OF TREES OR WOODY VEGETATION	VISUAL OBSERVATION AND RANDOM MEASUREMENTS THROUGHOUT THE SIDE SLOPE AREA	ONCE DURING WET SEASONS, ONCE DURING DRY SEASONS	CUT VEGETABLE TO AN AVERAGE HEIGHT OF 6-INCHES AND REMOVE TRIMMINGS. REMOVE ANY TREES OR WOODY VEGETABLE.		48	43.63	2094.24	ONE-TON TRUCK	2	26.84	53.68	STRING TRIMMER RAKE, FORK, BEGS, SAFETY EQUIPMENT	50.00	2197.92	
SLOPE STABILITY	EVIDENCE OF EROSION	VISUAL OBSERVATION	OCTOBER EACH YEAR.	RESEED/REVEGETATE BAREN SPOTS PRIOR TO WET SEASONS.		0	43.63	0	ONE-TON TRUCK & HYDRO-SEEDER	0	48.15	0	SEED	150.00	150.00	
				IF AFTER TWO APPLICATION (2-SEASONS) RESEEDING/REVEGETATION AND GROWTH IS UN-SUCCESSFUL BOTH TIMES AN EROSION BLANKET OR EQUIVALENT PROTECTION WILL BE INSTALLED OVER ERODING AREAS. NO EROSION BLANKET WILL BE INSTALLED IN THE BASIN INVERT.	NOT AN ANNUAL COST	0	43.63	0	ONE-TON TRUCK	0	26.84	0	SEED	0	0	
INSPECT FOR STANDING WATER	STANDING WATER FOR MORE THAN 72 HOURS.	VISUAL OBSERVATION	ANNUAL, 72 HOURS AFTER 2 STORM (0.75 IN) EVENT	<input type="checkbox"/> DRAIN FACILITY	NONE											
				<input type="checkbox"/> CHECK AND UNCLOG CLOGGED ORIFICE.												
				NOTIFY ENGINEER, IF IMMEDIATE SOLUTION IS NOT EVENT.												
INSPECTION FOR TRASH AND DEBRIS	DEBRIS/TRASH PRESENT	VISUAL OBSERVATION	DURING ROUTINE TRASHING, PER DISTRICT SCHEDULE.	REMOVE AND DISPOSE OF TRASH AND DEBRIS.	NONE											
INSPECT FOR SEDIMENT MANAGEMENT AND CHARACTERIZATION OF SEDIMENT FOR REMOVAL.	<input type="checkbox"/> SEDIMENT DEPTH EXCEEDS MARKER ON STAFF GAGE.	MEASURE DEPTH AT APPARENT MAXIMUM AND MINIMUM ACCUMULATION OF SEDIMENT. CALCULATION AVERAGE DEPTH.	ANNUALLY	REMOVE AND PROPERLY DISPOSE OF SEDIMENT. REGARDS IF NECESSARY.		16	43.63	698.06	4-YD DUMP TRUCK, BACKBONE & TRAILER, ONE-TON TRUCK & HYDROSEEDER	0.4	176.50	70.60	TESTING AND DISPOSAL	460.00	1228.68	
INSPECTION OF BURROWS	BORROWS, HOLE & MOUNDS	ANNUALLY AND AFTER VEGETATION TRIMMING	WHERE BURROWS CAUSE SEEPAGE, EROSION, LEAKAGE BACKFILL FIRMLY													
GENERAL MAINTENANCE INSPECTION	INLET & OUTLET STRUCURES, SILDE SLOPES OR OTHER FEATURES DAMAGED, SIGNIFI- EROSION EMER- GENCE OF TREES OR WOODY VEGETATION, GRAFITTI OR VANDALISM, FENCE DAMAGE, ETC.	VISUAL OBSERVATION	SIMI-ANNUALLY, LATE WET SEASON, AND LATE DRY MONTHLY	CORRECTIVE ACTION PRIOR TO WET SEASON. CONSULT ENGINEERS IF IMMEDIATE SOLUTION IS NOT EVIDENT	NONE	16	43.63	698.08	ONE-TON TRUCK	2	26.84	53.68				
TOTAL FOR 4 EXTENDED DETENTION BASINS						80		3490.40				177.96		177.96	4328.36	







# APPENDIX H Estimated O & M Costs for BMP Project

PAGE 2 OF 3 PAGES

ESTIMATED VALUED FROM CALTRANS PILOT BMP STUDY. THE SPREADSHEET WILL CHANGE AS ADDITIONAL DATA BECOMES AVAILABLE.

STUDY. THE SPREADSHEET WILL CHANGE AS ADDITIONAL DATA BECOMES AVAILABLE.						Labor			Equipment				Materials		Total	Comment
						Per. Hrs.	Rate	Cost	Type	Days	rate	Cost	Item	cost	Cost	
BIOFILTER SWALE (CONT'D)																
PREVENTIVE MAINTENANCE																
ROUTINE ACTION	MAINTENANCE INDICATOR	FIELD MEASUREMENT	MAINTENANCE FREQUENCY	MAINTENANCE ACTIVITY	SITE-SPECIFIC REQUIREMENT											
GENERAL MAINTENANCE INSPECTION	INLET & OUTLET STRUCTURES, SIDE SLOPES OR OTHER FEATURES DAMAGED, SIGNIFICANT EROSION EMERGENCE OF TREES, WOODY VEGETATION, FENCE DAMAGE, ETC.	VISUAL OBSERVATION	SEMI-ANNUALLY LATE WET SEASON AND LATE DRY SEASON	CORRECTIVE ACTION PRIOR TO WET SEASON. CONSULT ENGINEER IF AN IMMEDIATE SOLUTION IS NOT EVIDENT.	REMOVE ANY TREES OR WOODY VEGETATION	10	43.83	43.83	1-TON TRUCK HYDRO-SEEDER	2	26.84	53.69			751.76	
TOTAL BIO-FILTER & SWALE						52		2268..76				203.66		500	2972.42	
DRAIN INLET INSERT-FOSSIL FILTER																
SEDIEMENT REMOVAL	SEDIMENT MORE THAN 6"	VISUAL INSPECTION OF SEDIMENT COLLECTED WITHIN INSERT	DURING WET SEASON	REPLACE INSERT WHEN NECESSARY DURING INSPECTION												
INSPECT FOR DEBRIS/TRASH	SUFFICIENT DERIS/TRASH THAT COULD INTERFERE W/ PROPER FUNCTIONING OF THE INSERT	VISUAL OBSERVATION	DURING WET SEASON	REMOVE & DESPOSE OF DEBRIS/TRASH ONSITE WHILE CONDUCTING INSPECTION												
OIL & GREASE REMOVAL	WHEN OIL ABSORBENT POLYMER BECOMES SATURATED W/ OIL	VISUAL OBSERVATION (ABSORBENT POLYMER EXPANSION INDICATES OIL SATURATION)	MONTHLY	WHEN 10 WORKING DAYS, REPLACE OIL ABSORBENT POLYMER WHEN 10 WORKING DAYS, REPLACE OIL ABSORBENT POLYMER		2	43.83	87.26							87.26	
INSPECT FOR STRUCTURAL INTEGRITY	SIGNS OF RIPS GASHES, AND/OR FALLEN MEDIA	VISUAL OBSERVATION	TWICE PER YEAR IN MAY & OCTOBER	REPLACE INSERT OR IMMEDIATELY CONSULT VENDOR TO DEVELOP A COURSE OF ACTION, EFFECT REPAIRS W/IN 10 WORKING DAYS		2	43.83	87.26							87.26	
ANNUAL RENEWAL OF MEDIUM	END OF WET SEASON, APRIL 30		ANNUALLY, IN MAY	REMOVE CHARACTERIZE AND PROPERLY DESPOSE OF MEDIA. REPLACE MEDIA BEFORE OCT. 1		2	43.83	87.26	SEDAN	1	21.26	21.26	NEW ABSORBENT TESTING & DISPOSAL COSTS	195	1755	
TOTAL DRAIN INSERTS						6		261.76						195	1929.52	

TOTAL COST OF MAINTENANCE FOR ONE YEAR . . . \$9,230.30  
TOTAL COST OF MAINTENANCE FOR TWO YEARS . . \$18,460.60



# MAINTENANCE MECHANISM

## SECOND CATEGORY

The County needs to assure ongoing maintenance. The nature of the proposed BMP's indicates that it is appropriate for property owners to be given primary responsibility for maintenance; on a perpetual basis (unless a stormwater utility is eventually formed). However, the County (in a backup role) able to step in and perform the maintenance if property owner fails, and needs to have security to provide funding for such backup maintenance. Security for backup maintenance after the interim period (5 years) would not be provided, however primary owner maintenance responsibility would remain. If a stormwater utility or other permanent mechanism, is put into place. It could assume either a primary or backup maintenance role.

### Typical BMP's

- Biofilters (Grass swale, Grass Strip)
- Extended/dry detention basin
- Single Storm Drain Inserts

### Mechanisms to Assure Maintenance

1. Stormwater Ordinance requirement: The County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (S.O.) require this ongoing maintenance. In the event that the mechanism below prove ineffective, or in addition to enforcing those mechanism, civil action, criminal action or administration citation could also be pursued for violations of the ordinance.
2. Public Nuisance Abatement: Under the S.O. failure to maintain a BMP would constitute a public nuisance, which may be abated under the Uniform Public Nuisance Abatement Procedure. This provides an enforcement mechanism additional to the above, and would allow costs of maintenance to be billed to the owner, a lien placed on the property, and the tax collection process to be used.
3. Notice to Purchasers: Section 67.819(e) of the S.O. requires developers to provide clear written notification to persons acquiring land upon which a BMP is located, or others assuming a BMP maintenance obligation, of the maintenance duty.
4. Conditions in Ongoing Land Use Permits: For those applications (listed in S.O. Section 67.804) upon whose approval ongoing conditions may be imposed, a condition will be added which requires the owner of the land which the stormwater facility is located to maintain that facility in accordance with the requirements specified in the SMP. Failure to perform maintenance may then be addressed as a violation of the permit, under the ordinance governing that permit process.
5. Subdivision Public Report: Tentative Map and Tentative Parcel Map approvals will be conditioned to require that, prior to approval of a Final or Parcel Map, the Subdivider shall



provide evidence to the Director of Public Works, that the subdivider has requested the California Department of Real Estate to include in the public report to be issued for the sales of lots within the subdivision, a notification regarding the maintenance requirement. (The requirement for this condition would not be applicable to subdivisions which are exempt from regulations under the Subdivided Lands Act, or for which no public report will be issued.)

6. BMP Maintenance Agreement with Easement and Covenant: An agreement will be entered into with the County, which will function three ways:

1. it will commit the land to being used only for purposes of the BMP.
2. it will include an agreement by the landowner, to maintain the facilities in accordance with the SMP (this obligation would be passed on to future purchasers or successors of the landowner, as covenant; and
3. it will include an easement giving the county the right to enter onto the land (and any necessary adjacent land needed for access) to maintain the BMP's

This would be required of all application listed in S.O.> Section 67.804. In the case of subdivisions, this easement and covenant would be recorded on or prior to the Final or Parcel Map.

### **Funding**

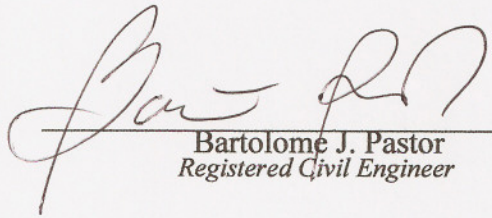
Developer would provide the County with SECURITY to back up the maintenance agreement, which would remain in place for an interim period of 5 years. The amounts of the security equal the estimated cost of 2 years of maintenance activities. The security can be a Cash Deposit. Letter of Credit or other form acceptable to the County.



## ATTACHMENT G

### CERTIFICATION CERTIFICATE SHEET

This Stormwater Management Plan has been prepared under the direction of the following Registered Civil Engineer. The Registered Civil Engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions and decisions are based.

  
Bartolome J. Pastor  
Registered Civil Engineer

6/5/07  
Date





# **MAINTENANCE MECHANISM**

## **SECOND CATEGORY**

The County needs to assure ongoing maintenance. The nature of the proposed BMP's indicates that it is appropriate for property owners to be given primary responsibility for maintenance; on a perpetual basis (unless a stormwater utility is eventually formed). However, the County (in a backup role) able to step in and perform the maintenance if property owner fails, and needs to have security to provide funding for such backup maintenance. Security for backup maintenance after the interim period (5 years) would not be provided, however primary owner maintenance responsibility would remain. If a stormwater utility or other permanent mechanism, is put into place. It could assume either a primary or backup maintenance role.

### **Typical BMP's**

- Biofilters (Grass swale, Grass Strip)
- Extended/dry detention basin
- Single Storm Drain Inserts

### **Mechanisms to Assure Maintenance**

1. **Stormwater Ordinance requirement:** The County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (S.O.) require this ongoing maintenance. In the event that the mechanism below prove ineffective, or in addition to enforcing those mechanism, civil action, criminal action or administration citation could also be pursued for violations of the ordinance.
2. **Public Nuisance Abatement:** Under the S.O. failure to maintain a BMP would constitute a public nuisance, which may be abated under the Uniform Public Nuisance Abatement Procedure. This provides an enforcement mechanism additional to the above, and would allow costs of maintenance to be billed to the owner, a lien placed on the property, and the tax collection process to be used.
3. **Notice to Purchasers:** Section 67.819(e) of the S.O. requires developers to provide clear written notification to persons acquiring land upon which a BMP is located, or others assuming a BMP maintenance obligation, of the maintenance duty.
4. **Conditions in Ongoing Land Use Permits:** For those applications (listed in S.O. Section 67.804) upon whose approval ongoing conditions may be imposed, a condition will be added which requires the owner of the land which the stormwater facility is located to maintain that facility in accordance with the requirements specified in the SMP. Failure to perform maintenance may then be addressed as a violation of the permit, under the ordinance governing that permit process.
5. **Subdivision Public Report:** Tentative Map and Tentative Parcel Map approvals will be conditioned to require that, prior to approval of a Final or Parcel Map, the Subdivider shall



provide evidence to the Director of Public Works, that the subdivider has requested the California Department of Real Estate to include in the public report to be issued for the sales of lots within the subdivision, a notification regarding the maintenance requirement. (The requirement for this condition would not be applicable to subdivisions which are exempt from regulations under the Subdivided Lands Act, or for which no public report will be issued.)

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1. it will commit the land to being used only for purposes of the BMP.
2. it will include an agreement by the landowner, to maintain the facilities in accordance with the SMP (this obligation would be passed on to future purchasers or successors of the landowner, as covenant; and
3. it will include an easement giving the county the right to enter onto the land (and any necessary adjacent land needed for access) to maintain the BMP's

This would be required of all application listed in S.O.> Section 67.804. In the case of subdivisions, this easement and covenant would be recorded on or prior to the Final or Parcel Map.

### **Funding**

Developer would provide the County with SECURITY to back up the maintenance agreement, which would remain in place for an interim period of 5 years. The amounts of the security equal the estimated cost of 2 years of maintenance activities. The security can be a Cash Deposit. Letter of Credit or other form acceptable to the County.